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**How to Test 'Real' Campaign Effects:
Linking Survey Data to Content Analytical Data**

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Introduction

In electoral campaign research we usually find two different approaches depending on what discipline the researcher is coming from. Political scientists usually study campaign effects by looking at variables such as candidate evaluations or issues. If these attitudes change over the period of a campaign (by holding other intervening factors constant) the effects are attributed to the actual campaign messages, campaign coverage, advertisements etc. Communication researchers, on the other hand, are often looking at the actual coverage of campaigns and try to interpret the election outcome in view of the campaign battle as it was fought in the media. Both approaches suffer from the deficit of not looking at both, the content of the campaign coverage as well as the survey answers of the respondents.

In this paper we are trying to bring both approaches together. First, a detailed content analysis of the German election campaign of 1990 will provide the actual data of what was covered, and how it was covered in the campaign. These data are then linked to a survey of that time period. The data stem from the German part of an international project (which involves researchers from the US, Germany, Great Britain, Japan, and Spain). This project gathered unique data on media usage, political attitudes, and the probably most extensive content analysis up-to-date. It provides us with methodological opportunities to test models of communication effects which until now was not possible with most data sets on electoral campaigns. The important point, however, is that through the linkage of content analytical and survey data a direct effect of campaign coverage can be measured and analyzed.

Substantially, the paper is also an attempt to show the potential effect of actual (television) media coverage on the voters' attitudes. Special attention will be given on issues (such as the unification issue), and on the candidate evaluations of the chancellor candidates. Although the content analysis encompasses a representative sample of the relevant German media sources we concentrate on television news for two reasons: First, television news is probably the most important source for public affairs information reaching huge parts of the society (Ansolabehere et. al., 1993; Graber, 1993), and second, incorporating all media information in our analysis would be too cumbersome to do at this stage of our research efforts.

Mass Media and its Effects

First newspapers and later radio and television have traditionally been assumed to play a crucial role for political communication. For Tarde (1898/1969), the press basically defined private conversation, and by doing that, public opinion. Walter Lippmann (1922) is an usual reference point for this tradition. The empirical research of these sweeping persuasive effects, however, failed to be such a success story. Whether specifically for campaigns (Lazarsfeld et al. 1948) or more in general (Klapper 1960), the results were rather disappointing for supporters of "media power".

Later research has been more successful since it focused less on overt political behavior like voting but, as a result of the cognitive revolution in the social sciences (Beniger and Gusek 1995), on rather indirect, cognitive effects during information processing. Substantively, three major media effects can be distinguished. Agenda-setting is the process of making issues salient or, in cognitive terms, accessible. Considering the fact that the survey response is now conceptualized as an aggregation of accessible considerations cued to some degree by media messages (Zaller and Feldman 1992, Zaller 1992), this rather simple quantitative effect can have interesting consequences. Priming is an extension of agenda-setting and describes the politically relevant consequences: accessible information rather implicitly defines the criteria used to evaluate politicians. And finally framing describes the process of giving issues or events an interpretative frame by contextualizing them (see Iyengar 1991; Iyengar and Simon 1993). In all the media effects studies, the empirical methods that are used and the substantive findings often vary considerably (Bartels 1993; Graber 1993). While many studies use different data sources like content analysis, aggregated polls, and individual survey data, the final test of the analytical models relies primarily on survey data and the use of media attention variables. The actual impact of media reporting (and real world events) is assumed through temporal coincidence which of course gives highly suggestive and convincing results but eventually lacks statistical precision (e.g. Krosnik and Kinder 1990; Iyengar and Simon 1993; Park and Kosicki 1995). After a short introduction on media and campaigns in Germany, the paper will review primarily some empirical studies which actually link content analysis data with survey data.

Mass Media and Campaigns in Germany

During election campaigns, political information is communicated in different forms and by different channels. News, candidate debates, and party advertisements are channeled through television, radio, newspapers, and personal communication. Considering that television is by far the most frequent and most important source of information in Germany, it is certainly justified to concentrate on this particular channel. It is of course also the most popular for the politicians since it has a very high credibility, a quality which party advertisements are lacking (Schönbach 1992, Berg and Kiefer 1992). Public broadcasting networks which still are the main though declining provider of political news are controlled by ‘broadcasting councils’ representing relevant groups in society but in effect are organized along party lines. This allows the parties considerable direct and indirect influence on the programming.

It is important to point out that Germany’s parliamentary system differs in some fundamental ways from the presidential system of the US. It gives parties much more importance in comparison to candidates. A recent content analysis and survey data show that political candidates in Germany play only a minor role in the political news as well as a vote determinant (Kaase 1994; Klingemann and Wattenberg 1993). Instead, long-standing party affiliations are still the most important vote

determinant. An American style 'horse-race' reporting with focuses on expectations of winning and loosing is far less prevalent.

During campaigns, media has two important effects in Germany. First and primarily, it activates the long-standing dispositions of the voters which largely explain the vote (Schönbach 1992). But secondly, by contributing to a certain degree of change in party identification and candidate evaluation, it can have decisive political consequences in close elections. This was the case in the election analyzed in this paper, until the unification issue as an intervening event which overrode everything else pre-decided the final election (Finkel and Schrott 1995).

Analytical Links of Different Data: Media Content and Surveys

Experiments

For the analysis of media effects, three major levels of analysis can be distinguished (see Bartels 1993). The first is the experimental approach which obviously is the most successful in establishing causal relationships between political information and audience responses. It gives the researcher a maximum control over the experimental setting, especially the content of the messages, and thus enables causal attributions. Since the content differs between the conditions, it is not necessary to include actual content variables in the data. Substantively, agenda-setting and priming have been shown to be persuasive media effects with this approach (Iyengar et al. 1982; Iyengar and Kinder 1987) and even the more subtle effect of framing, especially in the form of attributions of responsibility, found support (Iyengar 1991). A more recent and large-scale experiment links campaign messages in the media to voter turnout and feelings of efficacy (Ansolabehere et al. 1994). The main drawback of the experimental method, however, is the question of external validity which is rather given in surveys.

Surveys: Aggregate Level

The survey approach is traditionally the most common in empirical political science though it makes it much more difficult to establish causal links between potential media effects due to uncontrolled intervening factors. Surveys usually assess mass media exposure but not such intervening factors as interpersonal communication, irregular use of mass media (f.ex. usage of journals, newspapers and the like while visiting the haircutter, doctor etc.), or the use of background media (such as radio listening in the car).

Surveys can be analyzed in two ways, in aggregated form or on the individual level. In the former type, media content is linked with aggregated poll results, usually in the form of time series. A classic example is the article by McCombs and Shaw (1972) which empirically established agenda-setting by correlating aggregated measures of media issue emphasis and voter issue emphasis. Especially in the form of time series, questions like causality are commonly answered in support of media precedence,

though it is important to keep in mind that media coverage might be a reflection of real-world events or cues which could also have direct effects on public opinion (Behr and Iyengar 1985). In analyzing agenda-setting effects, it is necessary to take different kinds of issues into account, and most important, the kind of relationship (Neuman 1990). Neuman proposes a logistic response function for the recipients of media messages, establishing a kind of threshold of public attention. Recent agenda-setting models are much more complex due to integration of factors like previous opinion, ceiling effects, and exponential memory decay (e.g. Zhu et al. 1993; Watt et al. 1993). Though these studies integrate theories of individual level processes, the actual tests of the models are made with aggregate level data.

Not only the “quantitative” impact of political information but also more qualitative aspects were analyzed by Page et al. (1987). They analyzed the effects of pro and con stories in one or more networks on several policies, additionally differentiated by news sources, on aggregated opinion at two points of time. Due to their large collection of survey data, their unit of analysis consists of different policies and at different points of time. Their findings show that a previously held opinion on an issue has the largest effect on the later opinion and that news effects are highly conditional on the (credibility of the) source, notably news commentary and when presidential popularity is low. The authors interpret this as a reflection of elite or public consensus. Equally important is their conclusion that real events seem to have no direct effect but are rather communicated through elite mediators (for a comparable replication with newspaper data and quite similar results, see Jordan [1993]). This kind of analysis does not allow to draw definite causal relationships (see Page and Shapiro 1992, chapter 8). An interesting approach is taken by Fan (1988) and Fan and Tims (1989). In the latter study, computer-coded content of a news agency (candidate evaluations) is used to precisely predict the changes of voter attitudes towards the presidential candidates over a period of more than one year.

For Germany, several studies coming out of the communication department at the University of Mainz are of interest. In the quantitative category, a study by Brosius and Kepplinger (1992) examined the influence of the number of reported issues on vote intentions in the form of a time series over the year 1986. Their findings indicate that - when past voting intentions are controlled for - specific topics had indeed an influence on the vote intentions for specific parties. Another time series analysis by the same authors (1990), however, focused on agenda-setting and cautions somewhat about the causality of media agenda and public agenda. Depending on the issue, the time lags varied from one to six weeks. For a few long-term issues, however, public awareness preceded the media presentation (pensions and public security). Thus, Iyengar and Simon’s (1993) claim of predominantly unidirectional effects might be usually but not always correct. In the qualitative category, Kepplinger and colleagues (1986) looked at the impact of evaluations of the opposition leader and later chancellor Helmut Kohl in leading German print media on his evaluation and acceptance in the population over 3 to 9 years (in three-month intervals). Here, the findings (cross-correlations) indicate a clear causal link from media to

audience, and the results even suggest that print media seems to counterbalance opinion trends in the population. With a quite similar approach, Schulz and Kindelmann (1993) and Kindelmann (1994) tried to analyze the effect of evaluations in the media on the incumbent chancellor Kohl and his challenger Lafontaine in 1990. Their results show no strong effects and are rather inconclusive since their time series consists of only nine monthly measurements.

While some public opinion researchers argue that this aggregate level approach is sufficient (Page and Shapiro 1992), it obviously does not allow inferences on individual level processes which are necessary to explain attitude formation and other more than trivial individual political behavior.

Surveys: Individual Level

This leads to the third kind of media effects research, the individual level survey. This link of macro level data with micro level data offers an analytical framework that offers interesting opportunities for progress in public opinion research (McLeod et al. 1995). Since it poses quite different and difficult challenges (e.g. its static nature), it is used rather rarely. For example methods like copy-tests in nonexperimental settings are very laborious but nevertheless allow for rather precise data on individual attention to news and thus are an excellent method to analyze news selection by combining message characteristics with reader characteristics (see Donsbach 1991).

Furthermore, the work of three Michigan researchers should be mentioned. In a first article, Miller, Goldenberg, and Erbring (1979) tested the impact of negative political criticism in newspapers on the readers' trust in government and their efficacy. Their content analysis data is based on front-page articles of 94 different newspapers (which at least 7 respondents reported to read) on 10 days out of three weeks preceding the interview (the 1974 ANES). The media input represents the degree of criticism, not the amount of coverage. As far as their method description gives details, the variation in the media variable is due to inter-media differences which also have to some degree a regional character. Their second article (Erbring et al. 1980) focuses on agenda-setting and specifies an "audience-contingent effects" model which takes into account individual characteristics like issue sensitivity that mediate media impact. Besides their finding that informal social communication is an important mediating factor (see also Lenart 1994), an important conclusion is the necessity to monitor the kind or tone of coverage to assess the effects (see also Schönbach and Semetko 1992).

An excellent example how relevant content analysis data and survey can be combined is Mutz's (1992) study on the perception of unemployment as a problem. For a 300 person sample of Indiana residents, for each respondent the quantity and directional thrust of unemployment news in all the newspapers he or she named were recorded (10 days out of a 2 month period). Her results clearly show an effect of media reports especially on the perception of unemployment as a sociotropic or national but also as a state problem. Moreover, the mediated information even overrides the certainly important personal

consequences for regular readers (media users). This result not only contradicts earlier studies like Behr and Iyengar's (1985) aggregate-level results which showed no media effects on unemployment perceptions but also points again to the shortcoming of the aggregated level of analysis which cannot adequately take into account factors like exposure or sophistication.

A very detailed analysis of the 1988 Canadian election was done by Johnston et al. (1992). Their research design was a rolling cross-section, with 70 to 80 persons interviewed every day during the campaign. In one of their analyses, the authors merge content analysis data of the main television network news (and campaign advertisements), or more precisely, each of the last six days preceding the interview individually. News effects on candidate debate perception, candidates and issue positions are found, usually with the strongest effects after very few days and stronger than advertisement effects. Overall, the authors conclude that news reporting does not effect vote intentions directly but through candidates and issues (in this case, the later NAFTA). Given the circumstances of this election, campaigns indeed matter.

Kepplinger et al. (1991) also combine a survey with content analysis data, covering all media (print, television, radio) used by the respondents six month prior to the survey. Their focus is on the relationship of individual characteristics, especially value systems, and the reporting on selected conflicts (especially on events that favor on side of a given conflict) on their attitudes in these conflicts. The individual media input is calculated as information indices by weighting the actual media coverage (amount and tendency) with the individual usage patterns. The results show that even though the individual value systems predominantly influence the issue positions, a significant media impact can be found. The authors suggest in their analysis that media might have an influence on issue positions even when the specific information is not recalled later, a point that deserves some closer scrutiny.

Though necessarily based on experimental studies, recent cognitive conceptualizations of the process of candidate evaluation point to the necessity to control information input independently of individual recall. According to the on-line model of candidate evaluation (Hastie and Park 1985; Lodge et al. 1989; Rahn et al. 1990), evaluatively relevant information is not necessarily stored in memory for later retrieval but immediately used to update a running tally which summarizes the overall evaluation of a candidate. It enables people to readily give evaluative opinions about candidates, without being able to immediately give the underlying reasons for it. The evaluative tally, once established, forms a kind of relatively stable anchoring device and later information is only used to update it, with rather limited effects. This means for the survey context that media effects can be expected to be very difficult to establish and that it is necessary to have a measure of evaluative attitudes before a potential media impact takes place which at best is only given in the form of a panel study. The most relevant result in this context, however, is the finding that information thus can have an impact on people's attitudes

without them being able to recall these specific informations. In a recent experimental study by Lodge et al. (1995), the knowledge of the exact information input allowed a better prediction of individual attitudes than one based on the (later) recalled information. This means, control of the media agenda is necessary, a point Erbring and colleagues already made based on their survey approach.

Design, Data, and Models

Data

The data to test our models stem from the German pilot study of a large cross-national election project (CNEP) conducted by Max Kaase, Hans-Dieter Klingemann (both Science Center Berlin), Franz Urban Pappi (University of Mannheim), and Manfred Kuechler (Hunter College, New York). The study encompassed a three-wave panel survey, and the probably largest (conventional) content analysis up-to-date. 17 media, including all major television news shows, specialized political programs, two weeklies, the major German tabloid 'Bild', the five leading national newspapers from the West, three newspapers from the East, and the wire service dpa were content analyzed for the time period from April to December 1990. The entire coding procedure took almost two years, and in the end there had been coded about 120.000 cases.

The overall goal of the study was to analyze a fairly comprehensive communication context a person is exposed to. To achieve this goal not only the main respondent, but also the spouse and one political discussion partner were surveyed. The questionnaires contained an extensive set of media usage questions, and we will analyze parts of these questions, namely the information on the exposure to televised news shows. The theoretical reason is that television news are the most widely used news in campaigns, and we would therefore expect the strongest effects coming from these news sources. We will, however, include information on print news exposure whenever warranted.

Media intake during the election campaign

The most intense phase of party advertising, media reporting and discussion, and campaign activity usually takes place three to six weeks before an election, depending on agreements reached between the major parties (Schönbach 1991). Fortunately, the 1990 data in our study contains interviews conducted with a national sample and spread out over the time period from October 2 until November 29, 1990, covering the entire "hot phase". That means, the respondents were exposed to television news for about eight weeks. Since the media covered news in a varying degree, and since the respondents watch news at various length, the intake of campaign coverage news has to vary as well. Table 1 gives you the respondents' exposure to the important television news both for Western Germany (i.e. the 'old' Federal Republic) and Eastern Germany (i.e. the former GDR). The exact wording of the question was: „I will give you the titles of some television news programs. Please tell me, how often You watch each program

in a given week“. The first column gives the percentage of respondents who watch a certain news program at least once a week. The second column tells the average exposure to a certain news program. The figures show that the ‘Tagesschau’ (the main news program of the ARD public network) well in the lead with 90 per cent of respondents watching it at least once a week. The ‘Tagesthemen’ (ARD’s daily news magazine) and ‘heute’ (main news program of the second public broadcaster, ZDF) also reach some 75 per cent of the respondents and even ‘heute-journal’ (ZDF’s news magazine) is watched by 71 per cent at least once a week. The private broadcasters, in contrast, have much weaker audience figures. Taking the complete sample (i.e. all respondents), the news programs of SAT 1 and RTL plus reach only 30 and 37 per cent of respondents respectively at least once a week. If, however, one looks only at respondents receiving cable television, the situation for the private broadcasters looks much brighter. Among them, some 45 per cent claim to watch SAT 1 news at least once a week, and the figure is even higher for RTL plus’ news, reaching some 55 per cent. If this trend continues, there will be a shift of emphasis towards the news programs of the private broadcasters.

‘Tagesschau’ is also in the lead in Eastern Germany, even though it only reaches some 80 percent, followed by ‘heute’, whereas fewer people watch ‘Tagesthemen’ or ‘heute-journal’. Considering that both ‘Tagesthemen’ and ‘heute-journal’ are broadcast in the late evening, one cannot help suspecting that viewers in Eastern Germany are generally less interested in late news. This suspicion is further corroborated by the fact that the same phenomenon can also be observed with the news programs of the former East German public broadcaster DFF, the earlier ‘ak am Abend’ reaching some 75 per cent, the late ‘ak zwo’ merely 45 per cent. One can only speculate about the causes of this dislike of late news programs. One hypothesis might be a different daily schedule, with a workday traditionally starting at 7 a.m. or a different pattern of spare time activities (e.g. going to bed early) as another hypothesis.

Table 1 about here

These findings point to the fact that during an election campaign citizens just cannot avoid campaign information or that they are even actively searching for it. The intensity of campaign communication can be estimated by looking at the right hand column of the table giving the number of times a news program is watched in an average week. Here one can perceive some marked differences: the respondents watched ‘Tagesschau’ 3.8 days a week, but ‘Tagesthemen’ only 2.2 times a week, i.e. every second day (it was aired only five times a week). ‘heute’ reached an average of 2.5 days a week and ‘heute-journal’ (also on the air five times a week) still 1.9 times. Taking the whole sample, the private broadcasters only reach an intensity of one day per week. Among respondents with cable television the intensity for SAT 1 and RTL rises to 1.3 and 1.4 days in the week respectively. Viewers in Eastern Germany watch ‘Tagesschau’ even more intensively than those in Western Germany. Apparently the pattern of media use is somewhat more polarized: some respondents claim to watch only ‘Tagesschau’,

others only 'heute'. 'ak am Abend', the DFF's news program, is watched almost on three days per week. As could be expected, the intensity of the late news drops considerably. Viewers in Eastern Germany watch both 'Tagesthemen' and 'heute-journal' 1.4 times a week, 'ak zwo' 1.3 times (out of five programs per week).

Models

As mentioned above there are several competing hypotheses about media effects, and how they occur. Aggregated models often point to a lagged agenda-setting effect from one week to several month. Cognitive studies find a rather rapid, exponential memory decay (see Lodge et al. 1995; Fan 1988, Zhu et al. 1993) which suggest recency effects with a temporarily very close relationship of media information and accessible considerations (though according to the on-line model, this might be of minor importance for attitudinal consequences).

In our paper, we are looking less at agenda-setting effects, but at its attitudinal consequences. "By priming certain aspects of national life while ignoring others, television news sets the terms by which political judgments are rendered and political choices made" (Iyengar and Kinder 1987: 4, original in *italic*). As far as attitudes are based on accessible considerations, media messages as the external cue can either have a short-term effect on political attitudes (recency effect) or derive their impact from a long-term, cumulative effect through repeated coverage of the topic (frequency effect). The first option would indicate less stable attitudes which are easily susceptible to external stimuli, while the second option would support rather stable attitudes. As far as we can claim a causal relationship between media messages and recipients' attitudes, it is based on temporal precedence.

In order to test the media priming effects and the approaches outlined above in our models we need measures for both the long-term news exposure and for the information intake just prior to the survey. Of course, depending on the kind of information, and on the importance granted that information it would be plausible, too, to find both long-term and short-term information effects. We therefore developed two measures which we think will tap both long-term as well as short-term types of possible information intake.

Figure 1 about here

Figure 1 shows our model in a graphic depiction. There are two types of information intake. One is the information a respondent receives just prior to the survey, which we operationalized as SIPI (Short-term Index of Potential Information). The other is the amount of information voters acquire over the period of one month preceding the survey, labeled LIPI (Long-term Index of Potential Information). The indices take into account the actual news coverage (i.e. the information provided by the media) as obtained by the content analysis (objective content measures) which are controlled for by the self-reported media usage (subjective exposure measures), and are computed in the following way:

$$\text{SIPI/LIPI} = \frac{\text{Information Medium} \times \text{News Usage}_{i,\text{Medium}}}{\text{Potential News Usage Medium}}$$

It is important to note that this information is the aggregated amount of news content derived from the content analyses, and adjusted for each topic and each individual by the sampling date. That means, SIPI is the estimated (potential) information intake of the news coverage the day before the interview. LIPI, on the other hand, accumulates the (potentially received) information of the news coverage spanning one whole month prior to the interview date.

SIPI and LIPI can be computed for any type of information we gain from the content analysis. SIPI and LIPI will vary over all the media and respondents because these measures take into account the actual amount of information, and the time of the news coverage. Since we are dealing with eight television channels and based on prior analyses where we estimated our models with measures for each channel individually (Schrott and Meffert, 1994), we decided to reduce the complexity of our models and take the sum over all media. Another decision had to be made which news coverage to include in our models.

The German election of 1990 was dominated by one issue: the unification of the two German states after the fall of communism. Since the Germans hardly had a chance to personally experience the development of unification (the tax hikes came later), the mediated information can be considered as the primary source of information. In our content analysis each news report was coded whether it explicitly, implicitly or not at all alluded to unification. As it turned out over 70 per cent of the entire news coverage at least implicitly referred to the unification process. Therefore we computed the amount of time this process was covered in the news. We did not, however, differentiate between favorable or unfavorable coverage. Assuming that no matter what kind of coverage the recipients received and in order to exert any effect at all, the information will have to be filtered through individual predispositions and existing opinions and preferences. That means that the direction of the effect can not easily be derived from a favorable or unfavorable coverage.

Besides this measure of the unification process in general we further computed our indices from two topics of the content analysis. One is the unification topic itself, i.e. specific news reports on this issue. And the other topic is the budgetary policy, a hotly disputed issue when the problem of financing the German unification arose.

Research on electoral campaigns during the German unification process has argued that it was mainly chancellor Kohl and his government parties who gained most from the campaign, and especially from the handling of unification problem (see Holtz-Bacha and Kaid, 1993). If that is correct, we would

expect to find significant correlations between our information indices and candidate evaluations, and between the information and the evaluation of political issues in the campaign.

One of our dependent variables is the difference of the overall evaluations of the two chancellor candidates. While previous research suggests that candidate evaluations are not as important in the German electoral context as in the United States (Klingemann and Wattenberg 1993; Falter and Rattinger 1982), it is nevertheless the case that individuals may develop fairly strong attitudes about the candidates before and during the "hot phase" of the campaign. This applies especially to 1990 when one candidate is the incumbent chancellor and the other a relatively well known and controversial political figure. Furthermore, these evaluations are the factors that may be most likely to change during a campaign, and are those which advertising and other campaign efforts are often designed to influence (Radunski 1980; Schulz and Kindelmann 1993; Semetko and Schönbach 1991).

Our second dependent variable pertains to the probably most debated issue during the campaign, i.e. the economic recovery of the former GDR and how to deal with it. Respondents were asked their opinions regarding the best policy approaches for this recovery. Two competing policies were offered, one arguing that the state (i.e. government and administration) should interfere as little as possible, and two, that a far-reaching state intervention would be best for the economic recovery. The two positions are of course only the endpoints of a continuum. Besides the own stand on this issue, the respondents were also asked to place the government and the opposition parties on their (perceived) positions.

We therefore propose the following models to test the impact of our indices of potential information on the vote determinants of the German election of 1990:

Model 1:

$$CAND_i = \beta_1 + \beta_2 SIPI_{i,Media} + \beta_3 LIPI_{i,Media} + \beta_4 PID_i + \beta_5 INFOTV_i + e_i$$

where,

CAND = Difference in evaluation of chancellor candidates

SIPI = Short-term index of potential information

LIPI = Long-term index of potential information

PID = Party identification

INFOTV = Television news usage

β_1 = Constant

e = Error

β_2 to β_5 = regression weights linking independent variables to dependent variables

i = Individual i

and

Model 2:

$$ECORECGOV = \beta_1 + \beta_2 SIPI_{i,Media} + \beta_3 LIPI_{i,Media} + \beta_4 ECORECSLF_i + \beta_5 ECORECOPP_i + \beta_6 CAND_i + \beta_7 INFOTV_i + e_i$$

where,

ECORECGOV = Government Parties' Position on Economic Recovery of the former GDR

ECORECSLF = Own Position on Economic Recovery of the former GDR

ECORECOPP = Opposition Parties' Position on Economic Recovery of the former GDR

CAND = Difference in evaluation of chancellor candidates

SIPI = Short-term Index of potential information

LIPI = Long-term index of potential information

INFOTV = Television news usage

β_1 = Constant

e = Error

β_2 to β_7 = regression weights linking independent variables to dependent variables

i = Individual i

The variables represent standard measures in German electoral research. Evaluations of the two chancellor candidates (CAND) were measured on a thermometer-type scale where respondents who "thought very badly" of each candidate were coded as -5 and respondents who "thought very much" of each candidate were coded as +5. The variable used in the analysis is the difference in respondents' ratings of Helmut Kohl and Oskar Lafontaine with positive values to +10 for individuals who rate Kohl highly and Lafontaine negatively, and negative values to -10 for individuals with extremely pro-Lafontaine evaluations relative to Kohl. Party identification (PID) was measured on a -5 to +5 scale by multiplying the individual's identification with government parties (+1) or opposition parties (-1) by self-reported strength of identification (from '1' for very weak to '5' for very strong). Those who identified with none of the four major parties or had no party identification were coded as '0.' The perceived issue positions of how much state intervention is necessary for the recovery of the economy of the former GDR (ECORECGOV, ECORECSLF, and ECORECOPP) were coded from 1 (the state should interfere as little as possible) to 7 (far-reaching state intervention). INFOTV was coded as the sum of all news program usage. Finally, SIPI and LIPI were measured in minutes of news coverage of a given issue or topic.

It should be emphasized here that our goal was mainly to test whether procedures can be developed to include the actual content of news coverage in one way or the other into our models of campaign effects. If we want to learn more about the impact of campaign coverage upon the voter we need not only to know about media usage but also about the actual information intake to develop a fuller picture of the campaign process.

Results

Candidate Evaluations

Table 2 shows the impact of the entire eight week coverage pertaining to the unification process (no matter what the specific issue was) on the comparative candidate evaluation. The strongest effect has as expected PID, but both our indices are significant, too. And in both cases it is chancellor Kohl who wins through the media coverage when it comes to the unification process. Interestingly enough, it is the long-term exposure to unification related coverage that has the stronger impact. This corroborates other research that states that Kohl won tremendously in support through his handling of the German unification while Lafontaine was (for a long time) perceived as a reluctant ‘unifier’ (see Schulz and Kindelmann, 1993). These results clearly support both hypotheses, recency and frequency effects, while slightly favoring the cumulative media effect.

Table 2 about here

Table 3 depicts the results for the actual topics being covered. We did not include all variables in the same model for two reasons. One is that the coverage of the actual topics are largely a subset of the coverage with references to unification, and we wanted to estimate the diffuse perception of unification separately from the actual discussion of this process. A second reason is the substantial amount of multicollinearity due to the overlap of the variables.

Table 3 about here

Again, it is the long-term exposure to the discussion of unification that exerts the strongest effect. Our short-term measure does not have any effect this time. This means that people were not strongly affected by individual reports on the unification problem but rather had to accumulate information over a longer period of time to improve their evaluation in favor of chancellor Kohl. The picture for information about budget related matters, especially financing the unification, is quite different. Here, only the short-term information index is significant. In other words, there was no cumulative influence of the information on how Kohl and his government is going to handle the budget in the face of the unification expenses on the comparative candidate evaluation. Only pieces of information recently obtained had an again favorable impact on his evaluation. A reason for this might be the fact that issue of how to finance the unification became an important topic only late in the campaign. And Kohl’s position that this would be no problem obviously found a positive reception.

Overall it seems that both long-term and short-term priming effects were operating during the campaign of 1990, depending on the kind of issue. Both effects, however, favored the chancellor and boosted his evaluation. Our models of incorporating actual news content seem to work and help to explain the impact of obviously persuasive media messages.

Issues: Economic Recovery of Former GDR

The results of our second model are shown in Table 4. The dependent variable ECOUNIF is the perceived stand of the government parties on the issue of the necessary degree of state intervention for the economic recovery of the former GDR. Control variables for news usage, candidate evaluations, the position of the respondent, and of the opposition parties are included, too. Clearly, the own position has the strongest impact on the perceived government position. However, once more we find a significant relationship between long-term information intake and the government parties' perceived stand on the degree of state intervention. The negative sign of the long-term index means that heavy exposure to coverage related to unification leads the respondents to believe that the government parties are less in favor of state intervention. This is a highly plausible result as a related content analysis shows. Of the two governing parties, the CDU was specifically associated with the privatization of the former communist "public" businesses and concerns as well as tax deductions. The FDP was even more supportive of tax decreases and private investments. The main opposition party, the SPD, on the other hand was associated with job programs and such with a much more active role for the government (Lang 1994). Interestingly enough, the overall media exposure variable has the opposite effect.

Table 4 about here

Turning to Table 5, the findings tell a somewhat different story when it comes to specific news stories topics. Here, the long-term coverage of pure unification stories does not effect the perception of the positions of the government parties. Instead, it is the short-term coverage that also points to the government parties being in favor of a minor state role. Exposure to budgetary policy stories, however, fits again the overall pattern of the results: the cumulative reception of news messages exerts a highly significant effect on the perception of policy positions, while recent stories fail to influence the respondents' perceptions markedly. The fact that the overall media exposure variable exerts again an opposite effect strikingly drives home the point that the actual media content matters, and that different topics or issues might also have different impacts on attitudes.

Table 5 about here

Conclusion

Our goal was to study the impact of television news on candidate evaluations and issues during an election campaign. We argued that the analyses of such impacts should incorporate the actual news content in order to fully understand these processes. We further argued that the priming effects can be basically based on two different processes. Short-term priming effects can be traced to recent information which makes relevant consideration accessible, while long-term media priming effects are

the consequence of cumulative and repetitive exposure to relevant information which makes relevant considerations accessible due to frequency.

To test these approaches we first developed a technique to actually link news content which each respondent individually. We constructed our short- and long-term indices of political information with the help of objective content measures based on the actual amount (and type) of news stories and subjective exposure measures of individual media usage. These measures allowed more stringent tests of what actually affected candidate evaluations and issues in the German election of 1990.

Our results show support for both hypotheses. Overall, the larger effects are found for long-term, cumulative indices. This is an important finding since it suggests that media recipients are not easily susceptible to media cues, or in other words, show attitudinal instability or even “non-attitudes” (Converse 1964). The media impact we find is rather slow and cumulative. Since the direction of the effects is without exception in the right direction, one could even go so far to suggest that specific and relevant information is used in rational fashion to form attitudes about candidates and issues at least in this sample.

The results also demonstrate the importance of including the actual news content, because the results varied for different types and amounts of information. Even though the models we estimated are rather simple, they yield quite impressive results. Media impact, after all, is not so minimal.

Therefore we think, we are heading in the right direction. However, to fully depict the information processes during a campaign, we should further include information from the print media and other political communication sources (such as interpersonal communication). Also, to really understand the relationship between news content and political attitudes, and how strongly news content influences attitudes, we need to use panel studies to analyze the changes on the individual level more closely. More complex models are necessary to test a larger variety of different hypothetical cognitive processes. We also need to do more work on the content analysis and the information indices. They are rather easy to compute, yet, they have to be well defined and operationalized to yield not only plausible but also valid measures.

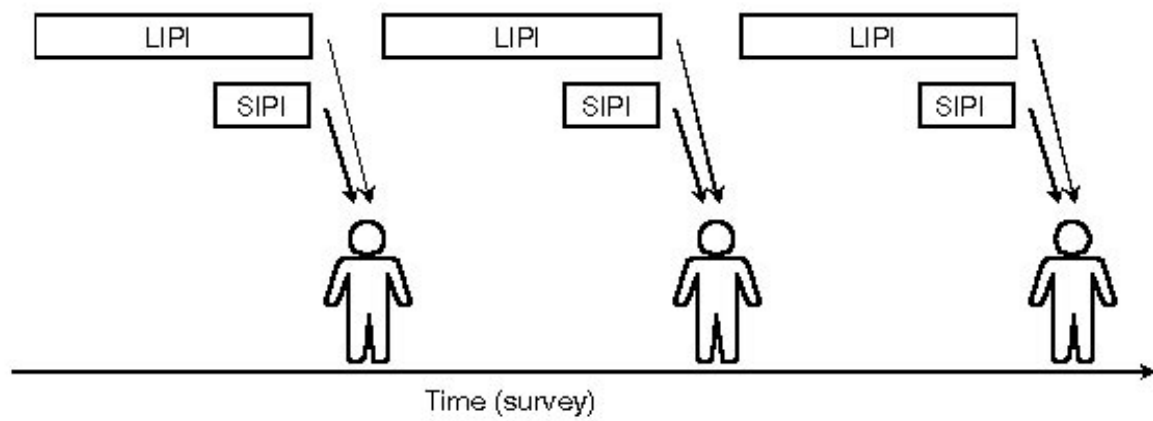
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Schaubild 1



SIPI = Short-term Index of Potential Information-intake
LIPI = Long-term Index of Potential Information-intake

Table 1: The audience of television news in Western and Eastern Germany 1990

	Western Germany (N=1330)		Eastern Germany (N=702)	
watching the news program at least once a week (percentage)	... times per week on average	... at least once a week (percentage)	... times per week on average
ARD Tagesschau	90.0* 91.8**	3.6 3.6	78.6	3.8
ARD Tagesthemen	71.5 72.6	1.8 1.8	52.0	1.4
ZDF heute	76.5 78.2	2.4 2.4	67.1	2.9
ZDF heute-journal	69.0 67.9	1.6 1.6	53.3	1.4
SAT 1 Blick	27.4 45.1	0.7 1.1	n/a	n/a
RTL plus aktuell	33.4 55.0	0.8 1.4	n/a	n/a
DFF ak am Abend	n/a	n/a	74.3	2.8
DFF ak zwo	n/a	n/a	45.7	1.3

* all respondents

** only respondents with cable television

Table 2: Regression Models: Candidate Evaluations and References to German Unification in News Coverage 1990 (s.e. in parantheses)

	Difference in Candidate Evaluations (Chancellor Kohl - Lafontaine)
PID	.943** (.03)
SIPI - Unification References	.135* (.06)
LIPI - Unification References	.706** (.23)
INFOTV	.017 (.06)
constant	.334
R ²	.37
N	(2013)

* p < .05 ** p < .01

Source: CNEP 1990

Table 3: Regression Models: Candidate Evaluations and 1990 News Coverage of German Unification and Budgetary Policies (s.e. in parantheses)

	Difference in Candidate Evaluations (Chancellor Kohl - Lafontaine)
PID	.945** (.03)
SIPI - German Unification	-.038 (.05)
- Budgetary Policies	.253* (.13)
LIPI - German Unification	2.460** (.54)
- Budgetary Policies	-.074 (.14)
INFOTV	.052 (.06)
constant	.189
R ²	.38
N	(2013)

* p < .05 ** p < .01

Source: CNEP 1990

Table 4: Regression Models: The Government Parties' Position on the Economic Recovery of former GDR and References to German Unification (s.e. in parantheses)

	Government Parties' Position on the Economic Recovery of former GDR
CAND	.035** (.01)
ECORECSLF	.414** (.02)
ECORECOPP	-.184** (.03)
SIPI - Unification References	-.035 (.03)
LIPI - Unification References	-.719** (.11)
INFOTV	.126** (.03)
constant	3.180
R ²	.22
N	(1657)

* p < .05 ** p < .01

Source: CNEP 1990

Table 5: Regression Models: The Government Parties' Position on the Economic Recovery of former GDR and 1990 News Coverage of German Unification and Budgetary Policies (s.e. in parantheses)

	Government Parties' Position on the Economic Recovery of former GDR
CAND	.034** (.01)
ECORECSLF	.413** (.02)
ECORECOPP	-.185** (.03)
SIPI - German Unification	-.064* (.03)
- Budgetary Policies	-.053 (.06)
LIPI - German Unification	-.372 (.25)
- Budgetary Policies	-.194** (.06)
INFOTV	.119** (.03)
constant	3.147
R ²	.21
N	(1657)

* p < .05 ** p < .01

Source: CNEP 1990